

Atty Dkt. No.: 10010010-1  
USSN: 10/066,516

### **REMARKS**

#### **Formal Matters**

Claims 1-38 were examined and rejected.

Applicants respectfully request reconsideration of the application in view of the remarks made herein.

#### **Rejections under 35 U.S.C. § 103**

Claims 1-38 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ermolacva in view of Bowtell, in further view of an Affymetrix or GenePix scanner. The Applicants again traverse this rejection.

The claims are directed to methods and compositions that involve *automatic* retrieval of signal data and feature extraction. In one exemplary embodiment that may be used to understand what is being claimed but not limit what is being claimed, an array is scanned to produce scan data that is placed in memory, and the scan data is *automatically* retrieved and analyzed. Accordingly, automatic data retrieval and feature extraction is a feature of the invention. Further, according to claims 1-11 and 22-28, feature extraction of data obtained from a first array may be performed while a second array is being read. Accordingly, claims 1-11 and 22-28 recite methods and apparatuses in which feature extraction of a first array and reading of a second array occurs at the same time.

In certain embodiments (see claims 5-9, for example), an identifier, e.g., a barcode, associated with an array may be used to facilitate feature extraction. In one example, the identifier may be used to retrieve information about the array layout (see, e.g., the description on page 13, lines 20-22 of the instant specification). This information may facilitate automatic feature extraction (e.g., by indicating the expected size of features or the like). In other embodiments (see claims 3, 12-15 and 23, 33-35 for example), signal data is automatically retrieved from a memory by a processor as the processor becomes available.

Claim 12 generally relates to a method for reading multiple chemical arrays at each of multiple reading stations, saving array signal data from the multiple reading stations in a common memory and automatically retrieving saved signal data for chemical arrays from the common memory at each of one or more processors communicating with

Atty Dkt. No.: 10010010-1  
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the common memory, and as each processor becomes available to perform feature characteristic extraction on the retrieved signal data for the chemical array, extracting feature characteristics from the retrieved chemical array signal data at each of the processors.

Claim 16 generally relates to a method for reading at each of one or more reading stations, multiple chemical arrays each having a plurality of features, to obtain array signal data; saving array signal data in a common memory; automatically retrieving saved signal data for chemical arrays from the common memory at each of multiple processing stations communicating with the common memory, and extracting feature characteristics from the retrieved chemical array signal data at each of the processing stations.

Finally, the subject matter encompassed by claims 18-21 and 29-35 generally relates to receiving data from multiple reading stations at a hub, saving the data in memory, and communicating or feature extracting the saved data to multiple data processing stations.

The Office is reminded that the MPEP and current caselaw is explicitly clear about rejections based on obviousness: **the prior art must suggest the claimed invention**. This is explicitly set forth in MPEP § 2145.X.C and explained in great detail in MPEP § 2143.01. It is a central tenet of patent law.

In this case, the Office has combined four array-related references that the Office believes teach all of the claim elements when combined together, and has asserted that the claimed invention would be obvious in view of the combined references. However, among other things, **none of the cited references suggest that array reading and feature extraction may occur at the same time**. Accordingly, the cited prior art therefore *does not* suggest the subject matter of the rejected claims, and pursuant to current caselaw and the MPEP, this rejection may be withdrawn.

Simply put, the prior art fails to teach a central feature of the rejected claims. On this basis alone, this rejection may be withdrawn.

If this rejection is to be maintained, the Applicants specifically request that the Examiner explicitly set forth the Office's basis (other than the general, non-specific reference to "time saving" discussed below) for the suggestion that array reading and feature extraction may occur at the same time. If this cannot be done, this rejection

Atty Dkt. No.: 10010010-1  
USSN: 10/066,516

should be withdrawn.

The Applicants believe that this rejection may be withdrawn solely on the basis of the foregoing. To the extent a further discussion is believed necessary, the Examiner is respectfully referred to the following.

The Office appears to be taking a position that it would be obvious to read arrays and feature extract array data at the same time because it would effectively reduce time in processing a plurality of arrays.

However, this line of reasoning is not sufficient to establish a rejection based on obviousness because a method involving simultaneous reading *and* feature extracting is simply not suggested.

In other words, merely stating that the instant invention is suggested because it would save time does not render the instant invention obvious. Stated another way, an elegant and straightforward time saving solution such as that being claimed does not simply become obvious because there is a need for such a solution.

As a point of fact, none of the cited references even recognizes a problem that could be solved by the claimed invention. The need for the claimed invention is simply not set forth in the prior art references.

The Office argues that "waiting time" is an element of prior art methods that is not desired and therefore may be eliminated to provide the claimed invention. The Office cites only caselaw to support this argument.

However, the Office's argument is deficient because "waiting time" is an *essential* element of the cited prior art methods since the cited prior art does not disclose any method in which arrays are read and extracted at the same time. "Waiting time" could not be eliminated from the prior art methods because that would lead to methods that were non-functional. Pursuant to MPEP § 2143.01<sup>1</sup>, it is impermissible for the Office to use this type of logic to establish a rejection based on obvious.

Further, the Applicants also note that the Office Action itself states that it is not appropriate to rely solely on caselaw as the rationale in support of an obviousness

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<sup>1</sup> MPEP 2143.01 If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ

Atty Dkt. No.: 10010010-1

USSN: 10/066,516

rejection. Since the Office's "waiting time" argument is only supported by caselaw, it carries no weight according to MPEP § 2144 (as cited in the Office Action).

Furthermore, the Applicants also submit that the instant methods are not merely automated versions of prior art methods that can be done by hand. Prior art software simply does not provide for execution of feature extraction software while an array is being scanned. Accordingly, the claimed methods could not be performed manually, and the subject matter claimed cannot merely be an automated version of a prior manual method.

Finally, this Office Action does not discuss several claim elements specifically pointed out and discussed in the prior response.

The Applicants respectfully request that the Office point out where in the cited references the use of an identifier to facilitate feature extraction is taught. This feature is an element of claims 5-9 and the Applicants respectfully submit that it is not taught by the cited references. Claims 5-9 should be patentable in view of the cited prior art on the basis of this feature.

Further, the Applicants request that the Office point out where in the cited references automatically retrieving signal data from a memory by a processor as the processor becomes available is taught. This feature is an element of claims 3, 12-15, 23 and 33-35 and the Applicants respectfully submit that it not taught by the cited references. Claims 3, 12-15, 23 and 33-35 should be patentable in view of the cited prior art on the basis of this feature.

Finally, the Applicants request that the Office point out wherein the cited references a method or apparatus in which data is received by a hub from multiple reading stations and communicated to or feature extracted at multiple data processing stations is taught. The Office's reference to Ermolaeva's data management and analysis system does not meet this limitation. Claims 16, 18-21 and 29-35 should be patentable in view of the cited prior art on the basis of this feature.

The Applicants respectfully submit that this rejection has been adequately

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1125 (Fed. Cir. 1984)

Atty Dkt. No.: 10010010-1  
USSN: 10/066,516

addressed, and, as such, this rejection of claims 1-38 under 35 U.S.C. § 103 may be withdrawn.

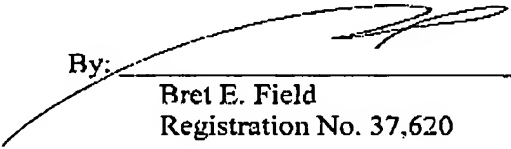
Atty Dkt. No.: 10010010-1  
 USSN: 10/066,516

**CONCLUSION**

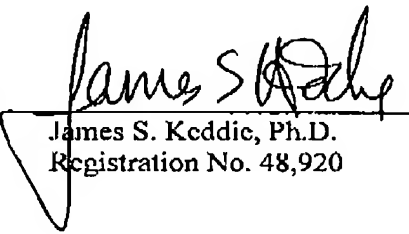
The Applicants respectfully submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone Timothy Joyce at 650 485 4310. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-1078.

Respectfully submitted,

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